

IN THE CLAIMS

1. (previously presented) An isolated nucleic acid sequence comprising at least one sequence from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69.
2. (previously presented) An isolated nucleic acid sequence that is complementary to a nucleic acid sequence according to Claim 1.
3. (previously presented) A recombinant vector comprising in its structure a nucleotide sequence according to Claim 1, under the control of regulatory elements, and involved in the expression of calpain activity in a LGMD2 disease.
4. (previously presented) An isolated nucleic acid sequence encoding the amino acid sequence of SEQ ID NO:6.

Claims 5-7 (canceled)

8. (previously presented) An isolated host cell which expresses a calpain enzyme activity, wherein said host cell is transformed or transfected with a nucleic acid sequence comprising the isolated nucleic acid sequence according to Claim 1.

Claims 9-14 (canceled)

15. (previously presented) A method for detecting an LGMD2 disease, the method comprising the steps of:
 - selecting nucleotide sequences from one or more exons from an nCL1 gene;
 - selecting primers specific for said one or more exons;

- amplifying nucleic acid sequences of said one or more exons with said selected primers;
- comparing the amplified sequence to a corresponding sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69; and
- detecting a mutation in said amplified sequences which is indicative of an LGMD2 disease.

16. (previously presented) The method according to Claim 15, wherein the primers are those selected from the group consisting of:

SEQ ID NO:62 and SEQ ID NO:63

17. (previously presented) The method according to Claim 15, wherein LGMD2 is LGMD2A.

18. (previously presented) A kit for the detection of a predisposition to LGMD2 by nucleic acid amplification wherein said kit comprises primers selected from the group consisting of:

SEQ ID NO:62 and SEQ ID NO:63

Claim 19 (canceled)

20. (previously presented) A composition which contains:

an isolated nucleic acid sequence comprising at least one sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69.

Claims 21-22 (canceled)

23. (previously presented) A composition which contains an isolated host cell which expresses a calpain activity, wherein said host cell is transformed or transfected with a nucleic acid sequence comprising a nucleic acid sequence comprising at least one sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69.